

4. Descriptions of Fifteen New Species of Land and Fresh-water Shells from Formosa, collected by Robert Swinhoe, Esq., Consul at Taiwan in that Island. By HENRY ADAMS, F.L.S.

(Plate XXXIII.)

1. NANINA (ACUSTA) ASSIMILIS, H. Ad. (Pl. XXXIII. fig. 1.)

*N. testa aperte umbilicata, depressa-globosa, tenui, irregulariter striata et confertissime leviter decussata, subpellucida, nitida, pallide fulva; spira subconica, obtusa; anfr.  $5\frac{1}{2}$ , convexiusculis, ultimo ventricosus; apertura lunato-circulari; perist. simplici, acuto, margine columellari arcuato, dilatato, ad umbilicum reflexiusculo.*

Diam. maj. 22, min. 18, alt. 15 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

This species much resembles *N. sieboldiana*, but is more widely umbilicated, more depressed, and of a lighter colour.

2. HELIX (PLECTOTROPIS) FULVICANS, H. Ad. (Pl. XXXIII. fig. 2).

*H. testa umbilicata, trochiformi, tenuiuscula, oblique leviter striata, et liris spiralibus tenuissimis decussata, breviter pilosa, pallide fulva; spira conoidea, acutiuscula, sutura simplici; anfr.  $6\frac{1}{2}$ , subplanatis, ultimo subacute carinato, antice descendente, basi convexiore; apertura obliqua, subrhombea; perist. tenui, marginibus convergentibus, dextro expanso, antrorsum subsinuoso, columellari peracuto, reflexo, umbilicum non claudente.*

Diam. maj. 11, min. 10, alt. 9.

*Hab.* Tamsui, Formosa (*Mus. Brit.*).

3. HELIX (CAMÆNA) BAIRDI, H. Ad. (Pl. XXXIII. fig. 3.)

*H. testa umbilicata, turbinato-depressa, solida, oblique plicato-striata, fulva, fascia peripherica nigro-castanea luteo-marginatu ornata; spira breviter conoidea; anfr. 6, convexiusculis, lente accrescentibus, ultimo antice descendente, umbilico mediocri profundo; apertura diagonali, auriformi-lunari; perist. fusco-carneo, expanso et breviter reflexo, marginibus remotis, utrinque in medio flexuoso et obsolete tuberculato, externe indentato; margine columellari dilatato.*

Diam. maj. 41, min. 36, alt. 23 mill.

*Hab.* Tamsui, Formosa (*Mus. Brit.*).

4. HELIX (CAMÆNA) SUCCINCTA, H. Ad. (Pl. XXXIII. figs. 4, 4a.)

*H. testa umbilicata, conoideo-depressa, solidula, oblique striatu, lineis spiralibus rugosis irregulariter decussata, luteo-fulva, fascia peripherica pallido-marginata ornata; spira conoidea; anfr. 6, convexiusculis, ultimo antice vix descendente, obtuse carinato, basi compresso; umbilico angusto, interdum intus cas-*



*taneo ; apertura obliqua, lunato-elliptica, intus pallidiore ; perist. albedo, expanso, breviter reflexo, margine columellari dilatato.*

Diam. maj. 30, min. 26, alt. 30 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

5. *BULIMUS* (*AMPHIDROMUS*) *FORMOSENSIS*, H. Ad. (Pl. XXXIII. fig. 5.)

*B. testa umbilicata, ovato-turrita, solida, oblique leviter striata, striis spiralibus confertissimis decussata, pallido-rufa, strigis castaneis irregularibus et fasciis spiralibus ornata ; spira convexo-turrita, apice acuta ; anfr.  $7\frac{1}{2}$ , vix convexiusculis ; apertura obliqua, elongato-ovali,  $\frac{2}{5}$  totius longitudinis adæquante, intus pallido-cerulea ; labro crasso, breviter reflexo, purpureo ; columella brevi, albida, late reflexa, umbilicum fere obtegente.*

Long. 55, lat. 25 mill.

*Hab.* Tamsui Mountains, Formosa (*Mus. Brit.*).

6. *CLAUSILIA* (*LACINIARIA*) *EXILIS*, H. Ad. (Pl. XXXIII. fig. 6.)

*C. testa vix rimata, fusiformi, tenuiuscula, confertim striata, sericea, rufo-fusca ; spira sensim attenuata, apice obtusa ; anfr. 10, convexiusculis, ultimo latere subcompresso ; apertura subovali ; lamellis parvis, supera tenui ; lunella distincta, angusta, urcuata, extus conspicua ; plica palatali 1, tenui, marginali, elongata, subcolumellari inconspicua ; perist. continuo, reflexo, albedo.*

Long. 28, diam. 7 mill.

*Hab.* Tamsui, Formosa (*Mus. Brit.*).

7. *CLAUSILIA* (*PHÆDUSA*) *FORMOSENSIS*, H. Ad. (Pl. XXXIII. fig. 7.)

*C. testa vix rimata, ventricosus-fusiformi, solida, subtiliter costulato-striata, sericea, albidu ; spira ventricosa, sursum attenuata, apice obtusula, sutura impressa ; anfr. 10, convexiusculis, ultimo angustiore, basi rotundato ; apertura verticali, ovata ; lamellis fortibus, supera marginali, infera validiore oblique ascendente ; lunella imperfecta ; plicis palatalibus pluribus, suprema elongata, subcolumellari emersa ; perist. continuo, superne breviter soluto, undique expanso et reflexo.*

Long. 26, diam. 7 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

8. *ENNEA* (*ELMA*) *SWINHOEI*, H. Ad. (Pl. XXXIII. fig. 8.)

*E. testa cylindracea, anguste umbilicata, tenui, albida, nitida, leviter striata ; spira oblongo-turrita, apice obtusa, sutura conspicua ; anfr.  $8\frac{1}{2}$ , vix convexiusculis ; apertura parum obliqua, semiovali,  $\frac{1}{4}$  totius longitudinis adæquante, antice arcuatim ascendente, plica parietali nulla ; perist. tenui, breviter reflexo, marginibus remotis, dextro flexuoso, ad insertionem subito attenuato et sinuato.*

Long. 16, lat. 5 mill.

*Hab.* Tamsui, Formosa (*Mus. Brit.*).

This species appears to be the type of a new group, possessing a strong sinus at the insertion of the outer lip, the aperture being edentulous. It may be designated *Elma*.

9. *CYCLOTUS SWINHOEI*, H. Ad. (Pl. XXXIII. fig. 9.)

*C. testa umbilicata, subdiscoidea, tenuiuscula, irregulariter striatula et elevatim spiraliter lirata, fulvida; spira parum elevata, apice acuminata, purpurea, sutura profunda; anfr.  $4\frac{1}{2}$ , convexis, ultimo rotundato, descendente; umbilico conico, profundo; apertura obliqua, subcirculari, superne leviter angulata; perist. simplici, continuo, expansiusculo, ad anfractum penultimum breviter adhærente.*

Diam. maj. 11, min. 9, alt. 7 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

10. *CYCLOTUS MINUTUS*, H. Ad. (Pl. XXXIII. fig. 10.)

*C. testa umbilicata, depressa, tenuiuscula, minutissime striata, luteo-fulva, nitidula; spira parum elevata, apice acuta, fusco-cornea; anfr. 4, convexis, ultimo cylindrico, parum descendente; apertura subverticali, circulari; perist. simplici, recto, continuo, breviter adnato.*

Diam. maj. 7, min. 6, alt. 4 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

"This species appears to grow larger further south."—*Swinhoe*.

11. *ALYCÆUS (DIORYX) SWINHOEI*, H. Ad. (Pl. XXXIII. figs. 11, 11 a.)

*A. testa anguste umbilicata, globoso-turbinata, tenuiuscula, dense oblique tenuissime striata; pallide fulva; spira turbinata, apice acutiuscula, sutura profunda; anfr.  $4\frac{1}{2}$ , convexis, ultimo ventricosus, ad aperturam valde constricto, e strictura canalem elongatam in sutura retrocedentem emittente; apertura verticali, spira brevior, circulari; perist. continuo, vix adnato, undique expanso.*

Diam. maj.  $6\frac{1}{2}$ , min. 5, alt.  $6\frac{1}{2}$  mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

12. *PUPINELLA (PUPINOPSIS) SWINHOEI*, H. Ad. (Pl. XXXIII. figs. 12, 12 a.)

*P. testa perforata, pupæformi, solida, sub lente subtilissime striata et lirulis spiralibus distantibus sculpta, fulvo-cornea; spira convexo-conica, apice acutiuscula, sutura simplici, conspicua; anfr. 7, summis convexiusculis, sequentibus planioribus, ultimo infra medium sulcato, circa perforationem valde cristato; apertura subverticali, circulari,  $\frac{1}{4}$  totius longitudinis æquante, callo parietali prominente, arcuato; columella profunde incisa; perist. incrassato, expanso, reflexo, albo, margine externo sulco superficiali circulatim bipartito, superne subito attenuato, cum callo juncto.*

Long. 14, diam.  $5\frac{1}{2}$  mill.

*Hab.* Tamsui, Formosa (*Mus. Brit.*).

This species is allied to *P. mindorensis*, *humilis*, &c., included by

my brother and myself in the genus *Pupinella*, from which, however, on further consideration, I think it would be well to separate them. These species form a natural group having the texture of *Pupinella*, but with a posterior sinus in the aperture as in *Pupina*, and for which I would suggest the name *Pupinopsis*.

13. *LIMNÆA SWINHOEI*, H. Ad. (Pl. XXXIII. fig. 13.)

*L. testa ovata, fragili, irregulariter striata, pallide cornea; spira acuminata; anfr. 4, convexiusculis; apertura oblongo-ovata,  $\frac{2}{3}$  totius longitudinis æquante; columella valde sinuata; labro flexuoso, in medio subsinuato.*

Long. 21, lat. 12 mill.

*Hab.* Takow, Formosa (*Mus. Brit.*).

14. *SEGMENTINA SWINHOEI*, H. Ad. (Pl. XXXIII. figs. 14, 14a.)

*S. testa depressa, orbiculari, concavo-convexa, nitida, luteo-cornea, late umbilicata; anfr. 5, apiculis arctissimis, excavatis, ultimo declivi; sutura impressa; apertura obliqua, lunata, fauce in fundo dentata.*

Diam. maj. 10, min. 9, alt. 4 mill.

*Hab.* Tungkang (fifteen miles below Takow), also in ponds and rice-fields at Takow, Formosa (*Mus. Brit.*).

15. *UNIO SWINHOEI*, H. Ad.

*U. testa tenui, ovali-elongata, inæquilaterali, convexiuscula, antice circulari, postice dilatata, subrotundata; epidermide fusco-castanea induta; margine dorsali subrecto; umbonibus parvis, undulatis, erosis; dentibus exilibus, rectis, ad marginem parallellis; margarita argentata.*

Long. 60, alt. 39, lat. 22 mill.

*Hab.* Formosa (*Mus. Brit.*).

DESCRIPTION OF PLATE XXXIII.

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